

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

June 2001

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

07 - Operational System Development**0207163F Advanced Medium Range Air-to-Air Missile 3777**

COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
3777 AMRAAM	49,597	53,214	57,702	37,190	33,367	34,301	36,652	37,804	0	693,833
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

Note: The FY03 - FY07 budget numbers do not reflect DOD's strategic review results

(U) **A. Mission Description**

The Air Force and Navy developed the baseline Advanced Medium Range Air-to-Air Missile (AMRAAM) as a high performance, all weather missile to counter existing air vehicle threats operating at high or low altitude and having advanced Electronic Protection (EP) capabilities. The AMRAAM Pre-Planned Product Improvement (P3I) program provides for a continuing, Joint Air Force/Navy research and development program which enables AMRAAM to: (1) be compatible with advanced fighters, (2) enhance AMRAAM capability and operational flexibility against mid-1990's and beyond threats, (3) incorporate high payoff technology developments, and (4) investigate variants and/or alternate missions which may use many baseline missile attributes. Currently, improvements under the P3I program include enhanced EP capabilities; improved weapon effectiveness through improved warhead, fuzing, and guidance; and increased kinematics. AMRAAM is a joint Air Force/Navy, Acquisition Category (ACAT) IC program with Air Force as lead service.

(U) **FY 2000 (\$ in Thousands)**

(U) \$47,828 Continue P3I Phase 3 improved seeker and advanced EP updates
 (U) \$1,695 Continue mission support
 (U) \$74 Continue test and evaluation
 (U) \$49,597 Total

(U) **FY 2001 (\$ in Thousands)**

(U) \$50,831 Continue P3I Phase 3 improved seeker and advanced EP updates
 (U) \$1,625 Continue mission support
 (U) \$758 Continue test and evaluation
 (U) \$53,214 Total

Funding (FY01): The following net transactions are not reflected in the FY01 program total. BTR= -\$331K and SBIR= -\$2,059K. These transactions are not reflected in the other sections of the R-Docs where an FY01 total is shown

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07 - Operational System Development**0207163F Advanced Medium Range Air-to-Air Missile 3777**(U) **A. Mission Description Continued**(U) **FY 2002 (\$ in Thousands)**

(U) \$55,953 Conduct P3I Phase 3
 P3I Phase 3 ACE Flights
 P3I Phase 3 Seeker Test Readiness Review

(U) \$1,661 Continue mission support

(U) \$88 Continue test and evaluation

(U) \$57,702 Total

(U) **B. Budget Activity Justification**

This program is in budget activity 7 - Operational System Development, providing upgrades to the AIM-120C missile currently in production.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>
(U) Previous President's Budget (FY 2001 PBR)	52,146	53,707	50,924	685,633
(U) Appropriated Value	52,783	53,707		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-351	-376		
b. Small Business Innovative Research	-1,122			
c. Omnibus or Other Above Threshold Reprogram	-1,507			
d. Below Threshold Reprogram				
e. Rescissions	-206	-117		
(U) Adjustments to Budget Years Since FY 2001 PBR			6,778	8,200
(U) Current Budget Submit/FY 2002 PBR	49,597	53,214	57,702	693,833

(U) **Significant Program Changes:**

Funding (FY02): \$6.513M for FY02 were realigned to support contractor and test rate increases for P3I Phase 3.

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BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

07 - Operational System Development

0207163F Advanced Medium Range Air-to-Air Missile 3777

(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Missile Procurement, Budget Activity #2, PE 0207163F, P-1 Line Item, AMRAAM	83,630	97,174	104,701	100,218	105,330	113,887	111,023	107,875	89,326	6,850,161
(U) Replenishment Spares, BP25	327	231	242	241	197	285	203	203	200	60,286
(U) Initial Spares, BP26	217	137	76	89	76	76	76	76	75	63,337
(U) Seek Eagle	0	607	0	0	0	0	0	0	0	15,132

(U) **E. Acquisition Strategy**

The AMRAAM Pre-Planned Product Improvement (P3I) program takes advantage of emerging technologies to update and expand the system capabilities to meet new user requirements. The Phase 1 missile allows internal carriage on the F-22 and JSF with clipped wings and fins as well as providing some software enhancements. The Phase 2 AIM-120 C4 missile adds a new warhead which increases lethality and the AIM-120 C5 missile has a +5 inch rocket motor for kinematic improvements. The first Phase 2 AIM-120 C4 missile was delivered in Aug of FY99. The Phase 2 AIM-120 C5 missiles started delivery in Jul of FY00. The Phase 3 missile is the first major upgrade to the seeker hardware and software to meet performance requirements for the FY04 and out time-period. The Phase 3 Cost Plus Award Fee EMD contract was awarded in Oct FY99. This missile will begin deliveries in FY04. The second stage of Phase 3, beginning in FY04, will result in improved guidance and kinematics.

(U) **F. Schedule Profile**

	<u>FY 2000</u>				<u>FY 2001</u>				<u>FY 2002</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) P3I Phase 3 Fuzing Functional Configuration Audit (FCA)			*									
(U) P3I Phase 3 Seeker Preliminary Design Review (PDR)			*									
(U) P3I Phase 3 Seeker Critical Design Review (CDR)							*					
(U) P3I Phase 3 ACE Flights									X			X
(U) P3I Phase 3 Seeker Test Readiness Review (TRR)												X

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE		June 2001		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0207163F Advanced Medium Range Air-to-Air Missile				3777			
(U) A. Project Cost Breakdown (\$ in Thousands)											
				FY 2000		FY 2001		FY 2002			
(U) a. Phase 3 EMD Improved Seeker and Advanced EP Updates				47,828		50,831		55,953			
(U) b. Gov Mission Support				1,695		1,625		1,661			
(U) c. Gov Test & Evaluation				74		758		88			
(U) Total				49,597		53,214		57,702			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
Contractor or Government		Contract Method/Type	Award or Obligation	Performing Activity	Project Office	Total Prior to FY 2000	Budget FY 2000	Budget FY 2001	Budget FY 2002	Budget to Complete	Total Program
Performing Activity		or Funding Vehicle	Date	EAC	EAC						
Product Development Organizations											
Misc. Contracts		SS/FFP	Annual	N/A	N/A	8,702	1,670	1,174	2,992	3,298	17,836
F08635-90-C-0201 Hughes		SS/FFP	Aug 90	5,200	5,200	5,200	0	0	0	0	5,200
F08626-91-C-0034 Hughes		SS/CPIF	Mar 91	93,506	93,506	93,506	0	0	0	0	93,506
F08626-93-C-0044 (Phase 2) Hughes		SS/CPAF	Jun 94	117,558	117,558	117,558	0	0	0	0	117,558
Phase 3 Risk Reduction		SS/CPAF	Oct 95	24,484	24,484	24,484	0	0	0	0	24,484
Phase 3 Improved Fuzing Capability		SS/CPAF	Oct 99	3,937	3,937	3,937	0	0	0	0	3,937
Phase 3 Improved Seeker and Advanced EP. Raytheon		SS/CPAF	Oct 99	206,822	206,822	24,434	46,158	49,657	52,961	33,612	206,822
F08626-98-C-0027											
EMD Contract Phase 3 Follow on		SS/CPAF	Oct 04	TBD	TBD	0	0	0	0	132,891	132,891
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE		June 2001	
BUDGET ACTIVITY				PE NUMBER AND TITLE						PROJECT	
07 - Operational System Development				0207163F Advanced Medium Range Air-to-Air Missile						3777	
(U) <u>Performing Organizations Continued:</u>											
*Note: Hughes became part of Raytheon Systems effective Dec 97											
<u>Support and Management Organizations</u>											
COEA	PO/MIPR	Jan 94	N/A	N/A	3,358	0	0	0	0	3,358	
Contractor Support	REO/PR	Annual	N/A	N/A	16,126	1,236	1,062	1,082	5,790	25,296	
JSPO Operations	PR/IMPAC	Annual	N/A	N/A	18,323	459	563	579	3,315	23,239	
<u>Test and Evaluation Organizations</u>											
Government Test	REO/MIPR	Annual	N/A	N/A	35,998	74	758	88	408	37,326	
(U) <u>Government Furnished Property:</u>											
<u>Contract</u>											
<u>Method/Type</u>											
<u>Award or</u>											
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Property</u>											
Not Applicable											
<u>Support and Management Property</u>											
Not Applicable											
<u>Test and Evaluation Property</u>											
TM/ECM Pods	REO/MIPR	Annual			2,380	0	0	0	0	2,380	
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
					<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>	
<u>Subtotals</u>											
Subtotal Product Development					277,821	47,828	50,831	55,953	169,801	602,234	
Subtotal Support and Management					37,807	1,695	1,625	1,661	9,105	51,893	
Subtotal Test and Evaluation					38,378	74	758	88	408	39,706	
Total Project					354,006	49,597	53,214	57,702	179,314	693,833	
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